

The Species of Black Flies Found in Colombia (Diptera: Simuliidae)¹

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Abstract: The recent discovery of the first human case of onchocerciasis in Colombia has prompted this review of the entomological literature related to simuliid black flies in this country. Fifteen named species and two other forms distinguished by letters are recorded as occurring in Colombia. For each species published data on geographic distribution and hosts are given.

In the entomological literature the references to simuliids in Colombia are scarce despite the well known importance of this group of insects as pests of man and domestic animals and also as vectors or intermediate hosts of pathogenic organisms.

The discovery of the first human case of onchocerciasis in Colombia (Assis and Little, 1965) and the subsequent field work related to the finding of this simuliid borne disease have acted as incentives for publishing the present review. The principal objective of the following list has been to gather the scattered information on black fly species known to occur in Colombia as a basis for future studies.

1. *Simulium bicoloratum* Malloch, 1912.

TYPE LOCALITY: Río Charape, Perú.

SYNONYMS: *Ectemnaspis macca* Enderlein, 1933.

Simulium molli Vargas, 1943.

Enderlein described *E. macca* from Peruvian material with distribution to "Paso Quemado," Colombia, a place name I cannot locate. Vargas and Díaz (1953a) consider *E. macca* Enderlein and *Simulium molli* Vargas as synonyms of *S. bicoloratum* Malloch. This species has been also reported from Perú, Bolivia and Venezuela (Vargas and Díaz, 1951; Briceño and Ortiz, 1957).

2. *Simulium dinellii* (Joan) 1912.

TYPE LOCALITY: Alpachiri, Tucumán, Argentina.

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SYNONYMS: *Trichodagmia miniata* Enderlein, 1934.

Simulium martinezi Vargas, 1943.

The type material of *T. miniata* consists of two female specimens collected in "Tierra caliente," Colombia, by Thieme. This species was renamed by Vargas (1943) as *Simulium martinezi*. Wygodzinsky (1950) after comparison of the types concluded that both names are synonyms of *S. dinellii* (Joan). This black fly has been collected in Argentina (many localities), Bolivia, Brazil, Ecuador, Perú and Venezuela (Briceño and Ortiz, 1957). It is an important pest of man in northeastern Argentina (Wygodzinsky, 1950).

3. *Simulium exiguum* Roubaud, 1906.

TYPE LOCALITY: Alto Sarare, Estado Lara, Venezuela.

Vargas (1945) records this species as having been obtained at Restrepo, Departamento del Meta. In describing *S. gonzalezi*, Vargas and Díaz (1953b) compared that species with one female specimen from Restrepo, Dept. del Meta, collected by P. C. Antunes in January 1935 and identified as *S. exiguum* by J. Lane in 1943. Lewis and Lee-Potter (1964) recorded this species from the following localities of the Dept. del Magdalena: Ariguani (alt. 1,700–2,000 ft.) three female specimens taken 20 December 1963; Meollaca (alt. 10,500 ft.) one female obtained 22 December 1963 and Valledupar (alt. 1,000–1,500 ft.) two females captured 15 January 1964. All these specimens were caught while feeding on man. This species has a wide geographical distribution in South America (Briceño and Ortiz, 1957). According to Vargas (1945) *S. exiguum* also bites horses.

4. *Simulium incrustatum* Lutz, 1910.

TYPE LOCALITY: Petrópolis, Brazil.

Antunes (1937) identified as this species adult specimens taken at Caibe and Guacavía, rural localities of Restrepo, Dept. del Meta, in January–February 1935. The material which was sent to J. Lane who confirmed the presumptive identification, was later also examined by Vargas and Díaz (1953a). This species is known to be present in Brazil, Colombia, Paraguay and Venezuela (Vargas and Díaz, 1953a). It has been captured while feeding on man and horses (Vargas, 1945).

5. *Simulium lahillei* (Paterson and Shannon) 1927.

TYPE LOCALITY: Quebrada de Lules, Tucumán, Argentina.

Two males and one female from Bogotá (alt. 2,600 m.), Dept. de Cundinamarca, were reared from pupae by J. Bequaert in 1933 and identified by Vargas and Díaz (1951). This species is otherwise known only from a number of localities in Argentina where it has not been seen attacking man commonly but Wygodzinsky (1953) reports one female collected with human bait.

6. *Simulium latigeditum* (Enderlein) 1936.

TYPE LOCALITY: Muzo, Dept. de Boyacá, Colombia.

This species is known only from the type material (Vargas, 1945).

7. *Simulium lutzianum* Pinto, 1931.

TYPE LOCALITY: Río Castaño, Aragua, Venezuela.

This fly has been recorded from Cali (alt. 1,000 m.), Dept. del Valle, where adult specimens were reared from pupae collected in the Río Cali by L. Briceño. The identification of this material was confirmed by L. Vargas (Briceño, 1946). This species is said to bite man and is known to occur in Guiana (British Guiana) and Venezuela (Vargas, 1945).

8. *Simulium metallicum* Bellardi, 1859.

TYPE LOCALITY: México (exact locality not known).

This species is recorded by Lewis and Lee-Potter (1964) from two female specimens caught while attacking man at Ariguaní (alt. 1,700–2,000 ft.) and Donacuí (alt. 4,700 ft.), Dept. del Magdalena, in December 1963. *S. metallicum* has been found in México, Guatemala, Costa Rica, Panamá, Trinidad and Venezuela (Briceño and Ortiz, 1957). It is considered by Lewis and Ibáñez de Aldecoa (1962) as the main or only vector of onchocerciasis in northern Venezuela, where it was collected feeding on man and less frequently on donkeys.

9. *Simulium mexicanum* Bellardi, 1862.

TYPE LOCALITY: Tuxpango, Veracruz, México.

Adult specimens were identified from pupae collected by Briceño (1946) in the Río Cali, Cali, Dept. del Valle, 4 June 1946. Later, in the same month, Briceño again collected this species at Muzo (alt. 900 m.), Dept. de Boyacá (Vargas and Díaz, 1951). It has been captured while feeding on horses or mules (Vargas, 1945).

10. *Simulium rubrithorax* Lutz, 1909.

TYPE LOCALITY: Serra de Bocaina, Batatais, Sao Paulo, Brazil.

This species was recognized from adult specimens captured at Caibe and Guacavía, rural localities of Restrepo, Dept. del Meta, in January 1935 (Antunes, 1937). This simuliid feeds on horses and occasionally on man (Vargas, 1945). It has been recorded from Argentina, Brazil, Guiana (British Guiana) and Venezuela (Briceño and Ortiz, 1957).

11. *Simulium sanguineum* Knab 1915.

TYPE LOCALITY: Boca de Arquía, Río Atrato, Dept. del Chocó, Colombia.

Dunn (1929) identified this species at various sites along the Magdalena, Atrato and Zulia Rivers where the man-attacking flies were extremely trouble-

some when present in large numbers. Vargas (1945) gives its distribution at several localities in Panamá, Guiana (British Guiana) and Venezuela.

12. *Simulium scutellatum* Lane and Porto, 1940.

TYPE LOCALITY: Restrepo, Dept. del Meta, Colombia.

The description of this species is based on 17 females collected in January 1935 by the Yellow Fever Service under the supervision of P. C. Antunes. According to Vargas (1945) it bites man. There appear to be no records other than the type collection.

13. *Simulium subnigrum* Lutz, 1910.

TYPE LOCALITY: Río Pacaembú, São Paulo, Brazil.

This species was found at Restrepo, Dept. del Meta, 6 January 1935 (Vargas, 1945). *S. subnigrum* has been collected at several localities in Brazil, Trinidad and Venezuela (Briceño and Ortiz, 1957). Vargas (1945) states it feeds on horses.

14. *Simulium tarsatum* Macquart, 1846.

TYPE LOCALITY: Nueva Granada = Colombia (exact locality not known).

The type specimen, one male, was collected in Nueva Granada, one of the several historical names applied to Colombia at the time the species was described. Apparently it is known only from this country (Vargas, 1945).

15. *Simulium violacescens* Enderlein, 1933.

TYPE LOCALITY: México (exact locality not known).

This species has been found in Venezuela and Colombia (Vargas, 1945). The Colombian record is based on one female specimen collected in March 1912 at the Sierra de San Lorenzo. According to Vargas (1945) it feeds on cattle.

Although the above list covers all the known named black flies for Colombia, it may be added that Lewis and Lee-Potter (1964) recognized two other species obtained with human bait which they designated by the letters A and B. They were taken at Meollaca and Donacuí, localities previously mentioned under *Simulium exiguum* and *S. metallicum*.

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